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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,105	04/18/2001	Hajime Kimura	SEL 253	9007

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EXAMINER

DONG, DALEI

ART UNIT PAPER NUMBER

2879

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,105

Applicant(s)

KIMURA, HAJIME

Examiner

Dalei Dong

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-74, 76 and 78-88 is/are pending in the application.
- 4a) Of the above claim(s) 2-55 and 65-74, 76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 56-64 and 78-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 9, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 56, 59-62, 64, 80, 82-84, 86 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi.

Regarding to claim 56, Abe discloses in Figure 1, a light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed

on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12).

However, Abe does not disclose an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees.

Ooi teaches in Figures 1, 2 and 5-7, a light scattering element having an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees (see column 6, lines 41 to column 7, line 6) for the purpose of obtaining a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the loss of the light volume of the illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio (see column 4, line 68 to column 5, line 6).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi for the light scattering body of Abe in order to obtain a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the loss of the light volume of the illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio.

Regarding to claim 59, Abe discloses in Figure 1, the first electrode (2) comprises a transparent material (see column 4, lines 50-57), and the second electrode (6) comprises a light shielding material (see column 5, lines 28-33).

Regarding to claim 60, Abe discloses in Figure 1, the light-scattering body comprises a transparent material (see column 4, lines 9-16).

Regarding to claim 61, Abe discloses in Figure 1, the light-scattering body comprises one selected from the group consisting of polycarbonate, polyimide, BEB, indium oxide, and tin oxide (see column 4, lines 9-16).

Regarding to claim 62, Abe discloses in Figure 1, the thickness (H) of the light-scattering body (50-600 mm) is greater than or equal to a pitch (W1 of 10-400 mm) of the light-scattering body (see column 3, line 66 to column 4, line 8).

Regarding to claim 64, Abe teaches the light emitting device is incorporated into one of selected from the group consisting of an EL display, a video camera, and a computer. Further, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations (see MPEP 2114).

Regarding to claim 80, Abe discloses in Figure 1, a light emitted from the EL layer is extracted from a surface of the light scattering body.

Regarding to claim 82, Abe discloses in Figure 1, a light emitting display device comprising: a substrate (1) having a first surface and a second surface which is opposite

to the first surface; a first electrode (2) formed over a first surface (12) of the substrate (1); an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate, wherein the first electrode (2) comprises a transparent material (see column 4, line 48 to column 5, line 15); and the second electrode (6) comprises a light shielding material (see column 5, lines 18-39).

However, Abe does not disclose an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees and wherein the light scattering body is trapezoid.

Ooi teaches in Figures 1, 2 and 5-7, a light scattering element having an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees (see column 6, lines 41 to column 7, line 6) and the light scattering body is trapezoid (shown in Figures 2, 5 and 7) for the purpose of obtaining a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the loss of the light volume of the illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio (see column 4, line 68 to column 5, line 6).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the light scattering prism of Ooi for the light scattering body of Abe in order to obtain a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the

loss of the light volume of the illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio.

Regarding to claim 83, Abe discloses in Figure 1, a light emitted from the EL layer (4) is extracted from a surface of the light scattering body.

Regarding to claim 84, Ooi teaches in Figures 2, 5 and 7, the light scattering body is a trapezoid and the motivation to combine is the same as above.

Regarding to claim 86, Ooi teaches the use of TFT for each picture element to thereby form an assembly of dots so that various kinds of display are obtainable (see column 13, lines 23-28). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize a TFT to the first electrode in order to achieve the desired pattern.

Regarding to claim 88, Ooi teaches the use of TFT for each picture element to thereby form an assembly of dots so that various kinds of display are obtainable (see column 13, lines 23-28). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize a TFT to the first electrode in order to achieve the desired pattern.

Art Unit: 2879

4. Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi and in further view of U.S. Patent No. 5,920,080 to Jones.

Regarding to claim 57, Abe in view of Ooi discloses, a light emitting display device comprising a substrate; a first electrode formed over a first surface of the substrate; an EL layer formed on the first electrode; a second electrode formed on the EL layer; and a light scattering body formed over a second surface of the substrate which is opposite to the first surface, wherein an angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees.

However, Abe and Ooi does not disclose the first electrode is electrically connected to a thin film transistor.

The Jones reference teaches in Figure 2, a light emitting device comprising: a thin film transistor formed on the integrated circuit (120) electrically connected to the first electrode (200) via plug (140) for the purpose of providing an active matrix design that maximizes the peak luminance and reduce edge shorting of the light emitting device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi and the thin film transistor of Jones for the electroluminescent device of Abe in order to provide an active matrix design that maximizes the peak luminance and reduces edge shorting of the light emitting device.

Regarding to claim 58, Jones teaches in Figure 3, the first electrode (200) is an anode and the second electrode (250) is a cathode, and the motivation to combine is the same as above.

5. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi and in further view of U.S. Patent No. 6,147,451 to Shibata.

Regarding to claim 63, Abe in view of Ooi discloses, a light emitting display device comprising a substrate; a first electrode formed over a first surface of the substrate; an EL layer formed on the first electrode; a second electrode formed on the EL layer; and a light scattering body formed over a second surface of the substrate which is opposite to the first surface, wherein an angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees.

However, Abe and Ooi does not disclose a pixel pitch is at least twice as long as a pitch of the light scattering body.

The Shibata reference teaches in Figures 2-5, a light emitting device comprising: a pixel pitch is at least twice as long as a pitch of the light scattering body for the purpose of providing clear and high luminescent device while improve the resolution of the light emitting device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi for the

electroluminescent device of Abe in the pixel array of Shibata in order to provide clear and high luminescent device while improve the resolution of the light-emitting device.

6. Claims 78, 79, 81, 85 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi and in further view of U.S. Patent No. 6,777,871 to Duggal.

Regarding to claim 78, Abe discloses in Figure 1, a self-light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12), wherein an angle between the light scattering body (plurality of prisms) and the second surface (11) is not less than 60 degrees and is less than 180 degrees (see column 3, lines 60-65).

However, Abe does not disclose an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees and the light scattering body is made of a different material from the substrate.

Ooi teaches in Figures 1, 2 and 5-7, a light scattering element having an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees (see column 6, lines 41 to column 7, line 6) for the purpose of obtaining a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the loss of the light volume of the

illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio (see column 4, line 68 to column 5, line 6).

However, Ooi does not disclose the light scattering body is made of a different material from the substrate.

The Duggal reference teaches in Figures 1-3, a light emitting device comprising: a light scattering body (3) is made of a different material from that of the substrate (see column 6, lines 14-30) for the purpose of improving the external quantum efficiency of the light emitting device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi with different material from that of the substrate of Duggal for the self-light emitting display device of Abe in order to obtain a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the loss of the light volume of the illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio.

Regarding to claim 79, Abe discloses in Figure 1, wherein the first electrode (2) comprises a transparent material, and the second electrode comprises a light shielding material.

Regarding to claim 81, Abe discloses in Figure 1, a light emitted from the EL layer (4) is extracted from a surface of the light scattering body.

Regarding to claim 85, Ooi teaches in Figures 2, 5 and 7, the light scattering body is a trapezoid and the motivation to combine is the same as above.

Regarding to claim 87, Ooi teaches the use of TFT for each picture element to thereby form an assembly of dots so that various kinds of display are obtainable (see column 13, lines 23-28). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize a TFT to the first electrode in order to achieve the desired pattern.

Response to Arguments

7. Applicant's arguments filed June 9, 2006, have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Abe discloses a light scattering body or a prism film provided on top of the display device in order to effectively intensify the light emitted in the normal line direction from the light emitting

surface and directions deviating from the normal line (see column 2, lines 5-12). The Ooi reference also teaches a light-scattering body or a prism film provided on top of the illumination device in order to achieve a symmetric viewing angle and reducing the loss of the light volume of the illumination means. The objective for both references are the same and it would lead to one having ordinary skill in the art to modify the prism sheet of Abe with the light scattering element of Ooi. Therefore, the Abe reference and the Ooi reference are trying to achieve the same objective by using the light scattering layer or the prism layer to improve the luminosity of the display device.

Also, in response to Applicant's argument that Ooi does not disclose the reason as to why the angle for the light scattering element is arranged between 65 degrees to 90 degrees, the Examiner respectfully disagree. The Ooi reference clearly teaches to arrange the prism angle having angles between 65 degrees to 90 degrees obtain a transparent-scattering type optical device having a symmetric viewing angle with respect to the front face, capable of reducing the loss of the light volume of the illumination means disposed at the back side of the optical device, and providing a bright display and a high contrast ratio (see column 4, line 48 to column 5, line 6). Thus, the Examiner asserts that the prior art teaches the claimed invention and maintains the rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

Art Unit: 2879

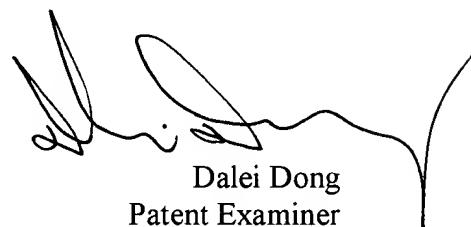
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

July 27, 2006



Dalei Dong
Patent Examiner
Art Unit 2879